

Mineral Industry Surveys

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SULFUR IN NOVEMBER 2006

During the month, production of recovered elemental sulfur was 696,000 metric tons (t), according to the U.S. Geological Survey. November 2006 production was 3% lower than that of October 2006 and 2% higher than that of November 2005. Shipments were about the same as those of October 2006. Producers' ending stocks for November 2006 were 202,000 t.

Sulfur production at petroleum refineries has recovered to levels comparable to those seen before two major hurricanes struck the Gulf Coast in August and September 2005. Extensive renovation and upgrading continued at BP p.l.c.'s Texas City, TX, refinery, one of the largest in the country. Full resumption of sulfur recovery is not expected before the fourth quarter of 2007 (North American Sulphur Review, 2006). Sulfur recovery at natural gas processing plants seems to have stabilized at an average of about 120,000 t per month, around 30% less than the average before a large operation in Wyoming began reinjecting acid gases late last year. Sulfur production from petroleum refineries is expected to recover to pre-hurricane levels for

2007, but production from natural gas operations is expected to remain at the new, lower average.

Import and export data for November 2006 were not available at the time of publication and will be published in the Sulfur in December 2006 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for October 2006 were estimated to be 241,000 t; exports were 84,000 t. Imports of sulfuric acid for October 2006 were 122,000 t; exports were 20,000 t.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

Reference Cited

North American Sulphur Review, 2006, Review & Outlook: North American Sulphur Review, v. 17, no. 12, December, p. 4.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks ³
	Petroleum ²	Natural gas	Total		
2005:					
January-December	6,940	1,810	8,750	8,720	XX
January-November	6,350	1,690	8,030	8,000	XX
November	555	129	683	671	167
December	593	120	714	721	156
2006:					
January	572	114	686	677	160
February	513	114	627	632	151
March	544	112	656	660	142
April	546	120	667	648	162
May	591	119	711	701	164
June	586	97	683	694	149
July	600	120	720	695	172
August	618	121	739 ^r	725 ^r	183 ^r
September	597 ^r	110 ^r	707	723	168
October	593 ^r	124	717 ^r	688 ^r	196
November ^p	574	123	696	689	202
Total	6,330	1,270	7,610	7,530	XX

^pPreliminary. ^rRevised. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes a small quantity from coking operations.

³Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Venezuela		Total, all countries ²	
	Quantity ^e	Value ³	Quantity	Value ³	Quantity ^e	Value ³	Quantity ^e	Value ³
2005:								
January-December	1,970	33,500	427	18,600	409	16,800	2,820	70,500
January-October	1,610	25,500	364	15,600	348	13,800	2,330	56,300
October	185	3,570	44	1,900	37	1,620	227	7,770
November	180	3,680	29	1,130	20	819	233	5,710
December	185	4,360	34	1,890	41	2,180	261	8,500
2006:								
January	165	4,190	58	2,520	37	1,680	260	8,460
February	150	3,910	43	1,810	40	1,650	233	7,450
March	165	3,970	44	2,010	34	1,580	243	7,690
April	205	4,290	29	1,420	30	1,410	264	7,230
May	210	3,260	29	1,390	19	925	259	5,820
June	205	2,550	44	1,970	29	1,270	281	6,120
July	165	2,370	43	1,900	33	1,370	241	5,730
August	165	2,330	43	1,770	20	824	229	4,940
September	160	1,970	43	1,730	31	1,240	245	4,970
October	165	1,960	43	1,710	32	1,270	241	4,990
Total	1,760	30,800	420	18,200	306	13,200	2,500	63,400

^eEstimated.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2005:									
January-December	2,000	656	80,700	398	129	7,920	2,660	871	102,000
January-October	1,690	555	66,800	332	108	6,740	2,250	737	85,900
October	178	58	7,880	60	20	1,730	253	83	11,600
November	138	45	5,910	38	12	674	181	59	6,820
December	172	56	7,910	28	9	504	229	75	9,640
2006:									
January	194	63	7,800	16	5	444	244	80	9,030
February	161	53	6,550	23	7	416	201	66	7,670
March	198	65	7,760	19	6	454	255	83	9,050
April	207	68	7,910	16	5	400	234	77	9,100
May	207	68	7,840	13	4	307	229	75	8,320
June	189	62	7,030	2	1	56	208	68	7,860
July	181	59	6,290	7	2	157	228	74	6,900
August	212	69	7,330	22	7	624	245	80	8,070
September	178	58	6,850	23	8	557	201	66	7,490
October	93	30	4,650	19	6	464	122	40	5,320
Total	1,820	595	70,000	160	52	3,880	2,170	708	78,800

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2005:					
January-December	683	55,900	348	108	29,500
January-October	582	47,200	304	94	25,900
October	104	7,070	32	10	3,020
November	14	2,940	7	2	992
December	87	5,790	37	12	2,560
2006:					
January	55	4,430	14	4	1,400
February	15	1,900	38	12	2,400
March	68	4,710	23	8	2,000
April	11	1,270	19	6	1,600
May	19	2,090	17	5	1,400
June	141	8,790	11	4	1,370
July	79	4,540	18	6	2,030
August	15	2,380	37	12	2,280
September	15	1,540	11	4	1,320
October	84	4,910	20	6	1,730
Total	502	36,600	207	68	17,500

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports ^e	Consumption
2005:			
January-December	8,040	2,820	10,900
January-October	6,750	2,330	9,070
October	510	227	737
November	657	233	890
December	634	261	895
2006:			
January	622	260	882
February	617	233	850
March	592	243	835
April	637	264	901
May	682	259	941
June	553	281	834
July	616	241	857
August	707	229	936
September	708	245	953
October	604	241	845
Total	6,340	2,500	8,840

^eEstimated.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	November 2006 ^p		October 2006		January - November 2006 ²		January - November 2005 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	18	17	18	17	210	209	219 ^r	219 ^r
Natural gas	8	7	8	8	35	34	17	17
Total	26	24	26	24	245	243	236 ^r	236 ^r
PAD 2:								
Petroleum and coke	83	84	85	84	944	947	951 ^r	952 ^r
Natural gas	3	3	4	4	36	36	33	33
Total	86	87	88	88	980	984	984 ^r	985 ^r
PAD 3: ³								
Petroleum and coke	359	359	370	349	3,930	3,900	3,940	3,940
Natural gas	39	38	40	39	414	412	453	455
Total	397	397	410	388	4,340	4,310	4,400	4,400
PAD 4 and 5: ⁴								
Petroleum and coke	114	113	119 ^r	116 ^r	1,250	1,210	1,230	1,190
Natural gas	73	68	73	72	789	787	1,180 ^r	1,190 ^r
California	95	92	102 ^r	97 ^r	1,040	1,000	983 ^r	945 ^r
Total	187	181	192 ^r	188 ^r	2,040	2,000	2,410 ^r	2,380 ^r
Grand total	696	689	717 ^r	688 ^r	7,610	7,530	8,030	8,000 ^r

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revisions.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2006			2005
	November	October	Total	total
Production	8.47 ^p	8.44	8.31	8.75
Shipments	8.38 ^p	8.10	8.23	8.72
Exports of sulfur	NA	0.99	0.60	0.58
Imports of sulfur:				
Canada	NA	1.94 ^e	2.11 ^e	1.97 ^e
Mexico	NA	0.51	0.50	0.45
Venezuela	NA	0.38 ^e	0.37 ^e	0.41 ^e
Total ²	NA	2.84 ^e	3.00 ^e	2.79 ^e
Exports of H ₂ SO ₄	NA	0.24	0.25	0.31
Imports of H ₂ SO ₄ :				
Canada	NA	1.10	2.19	1.87
Mexico	NA	0.22	0.19	0.40
Total ²	NA	1.44	2.60	2.66
Consumption: ³				
Domestic sources	NA	7.11	7.61	8.06
Imports	NA	2.84 ^e	3.00 ^e	2.79 ^e
Total	NA	9.95	10.61	10.85
Sulfur export values ⁴	NA	58	73	84
Sulfur import values: ⁴				
Canada	NA	12	18	17
Mexico	NA	40	43	41
Venezuela	NA	40	43	41
Average ²	NA	21	25	25
H ₂ SO ₄ export values ⁴	NA	86	85	86
H ₂ SO ₄ import values: ⁴				
Canada	NA	50	38	40
Mexico	NA	24	24	20
Average ²	NA	44	36	37

^eEstimated. ^pPreliminary. NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other countries not listed.

³Because November trade data were not available, November consumption was not determined.

⁴Average value per ton for most recent data available.